The Training School

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The Training School

Devoted to the Interests of those whose minds have not developed normally

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The De Moor Size-Weight Illusion

For many years the sensory-experiential illusions have had an intrinsic interest for psychologists and have been used at times as measures of suggestibility. At the Training School, an attempt has been made to evaluate the De Moor size-weight illusion as a diagnostic test. In the results obtained, it appears that this attempt has been successful and that this illusion of size and weight really is a test of mental development.

The material consists of two wooden blocks measuring 4.5×11.0×7.5 cm. and 4.5×11.0×30.5 cm. of the same wood (poplar) and the same weight. The two blocks are exactly alike in all particulars except that one is four times as long as the other, the weights being made equivalent by loading with lead. These two blocks are placed beside each other on the table and the subject is asked to "Tell me which block seems the heavier." The blocks may be lifted and compared in any manner at all, by successive lifting with one hand, by immediate lifting with both hands, by "hefting," by shaking or in any way that the subject pleases. Only two restrictions are imposed; the blocks must be lifted by direct contact with the hand, and they must be looked at when lifted.

This experiment was carried out in our laboratory on 345 cases of feeble-minded children, ranging in intelligence from low-grade idiocy to high-grade moronia. The testing was carried out in the fall of 1910 by research students of the laboratory. The number of cases at each year are fairly evenly distributed from idiocy up to eight years mentally, and above eight years are somewhat less numerous. The cases divide themselves into three types, (1) those who are unable to do anything in the

experiment, their intelligence being insufficient to enable them to comprehend the instruction; (2) those who can perform the experiment, but who get no illusion—persons to whom both weights seem equal; and (3) those who can do the experiment and who get the illusion—who report that the smaller block is heavier than the larger.

In 345 cases, the following results were obtained. Three cases were discarded, because the illusion was obtained accidentally thru some fault of the experimenter.

Mental age.	Number tested.	Complete failure.		Failed to have illusion.		Had illusion.	
1	35	34	97.1%	1	2.9%	0	%
2	37*	28	75.7	3	8.1	4	10.8
3	38†	17	44.8	8	21.6	12	31.6
4	32	5	15.6	14	43.7	13	40.7
5	35	5	14.3	9	25.7	21	60
6	36	2	5.6	12	33.3	22	61.2
7	45	3	6.7	4	8.9	38	84.4
8	41	0	0	0	0	41	100
9	25	0	0	0	0	25	100
10	12	0	0	0	0	12	100
11	4	0	0	0	0	4	100
12	5	0	0	0	0	5	100
	345	94		51		197	

We have plotted a curve of the percentages of the results obtained in order to make more apparent the significance of the results. Along the horizontal axis we have plotted the cases by mental (Binet) ages. Along the vertical axis we have plotted the percentages of the experimental results. Below each mental age is printed the number of cases at that age. The straight line curve represents type (3), those who do the test and get the illusion. The broken line curve represents type (2), those who do the test but who fail to get the illusion. The dotted line curve represents type (1), those who entirely failed to do the test.

From the curve the following conclusions are evident:

1. That this (De Moor size-weight illusion) test is a test of seven-year-old mental development, since at 7 years mental (Binet) age, 84 per cent. of the cases get the illusion, which percentage of correlation (more accurately 75 per cent.) has been accepted as diagnostic.

2. That ability to perform the test with or without getting the illusion is a test of four-year-old intelligence.

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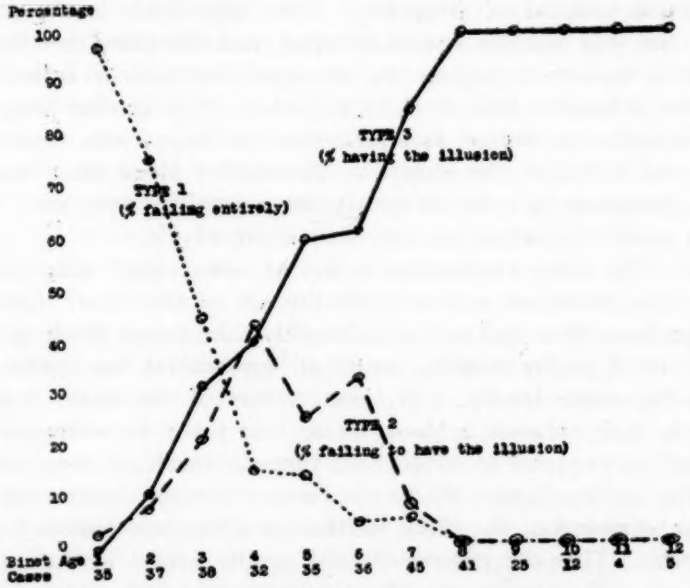
*2 accidental illusions.

†1 accidental illusion.

3. That at five years and at six years, getting the illusion is very nearly diagnostic of those who are able to perform the experiment, there being 70 per cent. and 65 per cent. at these ages who do get the illusion if they can perform the experiment.

4. That apparently the perception of the relation of size to weight develops in feeble-minded children at the period of from three to seven years, inclusive.

5. That at eight years and above, all are able to perform the experiment and to get the illusion.



There are at least two ways of explaining why persons of certain mental development should get this illusion.

(1.) The most natural explanation is that of normal experience. It is the universal experience after one has developed sufficiently in mentality to note relations, that of two things of the same appearance but of different size, the larger is the heavier. In this test the appearance makes the illusion, helped out perhaps by a certain amount of suggestion by the leading question, "Which seems the heavier?" suggesting innocently enough that one really is heavier. The two blocks are alike apparently in all respects except length, the matter of loading being unsuspected. Even if the loading is suspected, the normal person gets the illusion in spite of himself. One therefore expects that the longer block is the heavier, since being exactly the same as the other, except as to length, it should weigh more, proportionately to its length, but when, upon lifting the blocks they are sensed as weighing the same, this unexpected turn of affairs so disturbs

one's judgment that the smaller block seems to be and is judged heavier. The senses are not deceived, it is the judgment which is deceived, for the judgment was first prejudiced by the perception of size, so prejudiced that the size perception entirely dupes the weight perception. And the persistance of the illusion is very firm. The prejudice of the size perception is si insistent that even if the blocks be compared with closed eyes, the illusion still exists, for the hand at once detects which block is larger and having previously seen that both have the same appearance the illusion is obtained. The smaller block is judged the heavier because there is an actual reversal of judgment. The large block is expected to be heavier, but it is actually sensed as equal, and therefore the disappointed expectation instead of judging the two equal leads one to believe that the small one is heavier than it is. Or, looked at in another way, the two blocks actually are sensed as equal; but the larger was expected to be heavier and therefore the weight of the smaller block must be added to in one's judgment in order to satisfy the sense judgment, with the result that the smaller is judged heavier than it actually is.

(2.) The other explanation is one of neurological stimulation. The eyes see that one block is four times the size of the other. One's reason and experience then lead one to believe that the larger block weighs four times as much as the smaller, for to all appearances the blocks are alike and of the same density, and since masses of the same density vary directly as their volumes, a block having four times the volume of another just like it is expected to weigh four times as much. Consequently when one picks up the larger block, one uses a certain amount of sensory-muscular stimulation, the block is lifted and the stimulation is found to be sufficient. Then one proceeds to pick up the smaller block, but this time one spends only one-quarter (by assumption) of the sensory-muscular stimulation, for it is expected that this block weighs only one-quarter as much as the other. But at once it is found that this stimulation is not sufficient, for since the blocks actually weigh the same, they require the same amount of muscular energy to be lifted. The net result then is one of disappointed sensation which finds expression in a biased judgment and the smaller block is judged to be heavier than it really is. But since they really are equal and actually are sensed as equal, the total effect of the judgment is to pronounce the smaller the heavier.

So persistent is this illusion that I personally cannot force myself to judge the blocks equal, altho I know the illusion and altho I voluntarily will to overcome it. So persistent is my experential judgment of the relation of size and weight that I cannot adapt myself to this condition. Nor can I overcome the illusion by closing my eyes. I always can tell which block is the larger by my touch and at once my judgment is biased. It is only by suspending the blocks from strings in such a way that I cannot

detect the size of either block that I judge them equal. And I have known most people emphatically to deny that the blocks are equal, and enough so that they honestly doubt the accuracy of one's scales when one attempts to verify the equality by actual weighing.

(3.) It has been attempted to explain the illusion on the basis of concentration of weight. Psychologically a pound of feathers *is* much lighter than a pound of lead, but we think that this explanation of concentrated weight seeming heavier than diffused weight is only saying less fully what we ourselves already have said.

It would be interesting to know what results would be obtained with normal people. It has been our experience in using this illusion at many places and large exhibitions that normal persons (our experience is limited to persons older than eight years) invariably get the illusion. We have known persons who suspected the illusion and therefore reported that the blocks weighed the same, but in each case this was not an honest report of the actual judgment. Unfortunately, we have no figures on this point. Concerning the development of the illusion among normal children we also lack figures. Our figures are based on mental ages, which represent cases ranging from 5 to 60 years chronologically. Since, however, the mental ages are representatives of normality of intelligence, we must assume for the present that our mental ages represent chronological ages of normal intelligence. We do not believe that this is a fair assumption, for it remains to be proved whether or not feeble-minded children of the same mental age as normal children of that chronological age have the same mental equipment. We expect soon to have some data in this regard, and when we shall have compared the results of this test on normal children as well as feeble-minded children, we shall have procured an interesting and perhaps valuable psychological datum.

Pennsylvania's Anti-Venereal Campaign

To educate every man and woman, and girl and boy, in the State of Pennsylvania, and by means of them many throughout the length and breadth of the land, first concerning the laws of sex hygiene as bearing upon physical health, reproduction, and the home; then in the facts regarding the social diseases and the measures necessary to prompt control.

To safeguard our women and children by placing in their possession sufficient knowledge to enable them to protect themselves, and the assurance that will lead them to demand male protection.

To bring it to pass that no boy or girl of the future shall be allowed to leave the home for the struggle of life untaught and unprotected by a knowledge of the principles of sex hygiene commensurate with the individual powers of mental and moral digestion. To see to it that parents

shall be trained to do the teaching; and that in such instances as furnish no parents able, or alive to the necessity, their places be filled by the physician, the school teacher and the college professor.

To convince the people of this Commonwealth that there remains a need only for legislation that will safeguard and, as far as possible prevent, both the woman and the man from marriage with an uncured victim of disease transmissible either directly or by hereditary taint. Among such diseases should be included syphilis, gonorrhea, tuberculosis, insanity, and alcoholism.

To render the hospitals, especially such as receive and subsist upon State financial aid, accessible to patients suffering from the social diseases, and if necessary to provide separate wards for the free treatment of actively contagious cases.* Also to require hospitals to distribute educational leaflets to all such patients, treated in and leaving their wards and dispensaries, thus informing them with regard to the means of preventing the spread of social disease.

The Sleep of the Feeble Minded

By Lewis M. Terman, Ph. D.

(Appendix to a study of sleep of normal people.)

Through the courtesy of Superintendent Johnstone and Dr. Goddard, of the Vineland Training School, the authors were able to make a comparison of the sleep of feeble-minded individuals, both children and adults, with that of normals. Sleep records of 383 inmates were secured under the immediate supervision of Dr. Goddard, together with supplementary data, according to the following question sheet, which was filled out for each individual:

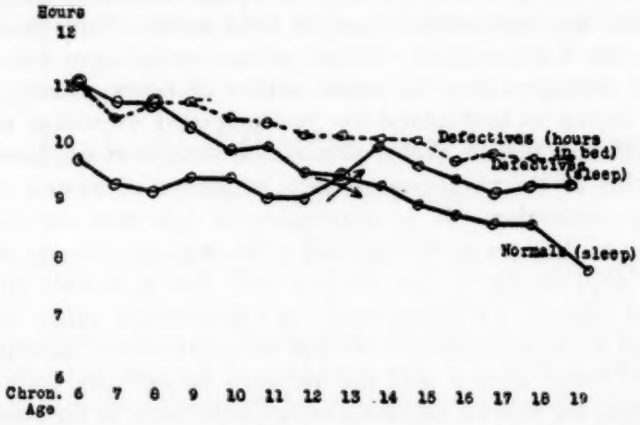
(1) Sex..... Age.....
(2) Grade of mentality .....
(3) Type of defective .....
(4) Regular hour of going to bed .....
(5) Regular hour of getting up .....
(6) At what hour does patient usually go to sleep?
(Give an actual record, if possible).....
(7) At what hour does patient usually awaken?
(Give actual record for same night as above, if possible).....
(8) Is sleep usually *unbroken, somewhat broken, or very much broken?* .....

(9) Disposition of patient: quiet, irritable, good-natured, self-controlled, violent, fits of temper, moody, anxious, nervous, lacks self-control, lacks energy.

(10) Conditions of health. Physical defects.

RESULTS.

(a) *The sleep of mental defectives, according to chronological age.* The following chart shows the average hours of sleep for the 193 of our defectives (sexes taken together), whose ages lay between six and nineteen years. For sake of comparison the curve for our normals is also produced.



The remarkable thing about the above curve is that *age differences are practically non-existent with the defectives.* The only marked rise in the curve comes at 14 years, the sleep of children 6 to 12 running slightly lower than that for the ages 16 to 19. If the curve for defectives above had been prolonged to include the ages above 19 years, it would be found practically horizontal from 20 to 40, with marked but gradual rise thereafter to 60 and above. The averages by decades are as follows:

	Number.	Sleep in hours and minutes.
Ages 21 to 30	137	9.05
Ages 31 to 40	39	9.06
Ages 41 to 50	11	9.26
Ages 51 and upwards	3	10.00

Our data, however, for the years six (2 cases), seven (3 cases), and above fifty (3 cases), are too scanty to be reliable.

(b) *The relation of sleep to degree of mental deficiency.* This is shown in another chart, together with another curve indicating the average number of hours spent *in bed* by the feeble-minded individuals of various mental ages.

Again, it is seen that the amount of sleep bears little relation to intelligence, and the conclusion arrived at in part II of the study of normal

children is borne out. To test the matter further the hours of sleep of the defectives of each chronological age were tabulated separately for each "mental age." The results showed only very slight differences for chronological age whatever the degree of mental defect, and such differences as were found are possibly due to the fact that the lowest grade defectives are given, on the average, a little more time in bed than are the higher grade defectives (see chart, page). Low-grade defectives, whatever their chronological age, here studied, sleep much less than normal children of the *same mental age;* while high-grade mental defectives sleep as much as normals of the same mental age, or even more. Thus practically all our 16-year-old feeble-minded children whose mental ages fall from two to six years, inclusive, sleep the same number of hours; namely, nine and a half. In trying to understand the feeble-minded individual child from the biological and genetic point of view, the question of correlation or non-correlation of the sleep requirements to degree of mental retardation is extremely interesting. It is unnecessary to add that our own scanty data, vitiated as they are by the regimen of institutional life, do not pretend to give any final answer to this question, still less to explain any relation that may be present. Whether sleep be explained in terms of instinct, chemical and toxic influences, or neural metabolism, the influence of extreme mental defect upon it is of interest, both theoretically and practically.

(c) Does the relative smallness of age differences in the sleep of these feeble-minded individuals as compared with normals indicate a genuine contrast between normals and feeble-minded, or is the phenomenon due merely to the daily program of the institution? It is evident from data already presented that the institutional program would act to *reduce* any genuine age differences that might exist, but since the hours in bed are regulated *in part* according to chronological age, we should hardly expect the age differences in sleep to be so completely obliterated. The fact of obliteration would itself indicate the extreme plasticity of the sleep habits.

This point, however, can only be settled by the collection of sleep records from children who do not lead an institutional life, and the writers would be glad to secure the co-operation of teachers of public school *special classes* in the collection of data on the subject. Correspondence with this end in view is invited.

(d) Sex differences of importance do not appear in our sleep records of the feeble-minded.

(e) For each age the variability among the feeble-minded as regards hours of sleep is much less than for the normals. This may be wholly the result of institutional life.

(f) Among the feeble-minded, as among normals, no relation appears between hours of sleep and the number of "nervous traits."

(g) In *quality* of sleep the feeble-minded of each grade of mentality

compare favorably with normal children. The figures for all grades taken together show that the sleep of 89 per cent. is "practically unbroken"; that of 8.4 per cent. "somewhat broken"; and that of 2.6 per cent. "very much broken."

In conclusion, it may be said that, unsatisfactory as our data are for the feeble-minded, they indicate in an interesting way the comparative independence of mental efficiency and hours of sleep. Our feeble-minded children, whatever grade of defect, sleep much *less* than normal children of the same age, the feeble-minded adults much *more* than normal adults. As regards sleep the feeble-minded retain throughout life the characteristics of childhood.

Reviews of Biochemical Literature

By Amos W. Peters

On Indicanuria.

The present review is devoted to the subject of indicanuria. Rightly or wrongly, this topic seems to have an irrepressible interest for those who are engaged in the care or treatment of mentally defective cases of the most varied types, and for the physician who is misled by such an "easy" test as that for the indigo coloring matter in urine. Physiological chemistry has, through a period of years, gradually overcome some of the pitfalls and difficulties of the chemical technique for the estimation of indican in urine, and has not yet arrived at a short and satisfactory quantitative method for the use of those who are not technical chemists. On this account it is still true that poor judgment in the selection of a method or a faulty technique may easily make this test of no significance chemically. Upon the other hand, biochemical investigation has long ago shown that the physiological or pathological meaning of the result of the indican test depends, among several other factors, very greatly upon the *quantity* of the indican. It is also known that the quantity stands in some relation to the diet and that the excretion of indican varies in intensity during a 24-hour period. Long[1] states that "in spite of all that has been written on the subject, many physicians persist in considering such amount of indican as we are here dealing with as pathological." Both normal and pathological urines may contain indican. In view of the results of Baar, below described, and also of earlier investigators, the significance of the finding of indican in urine was always very doubtful. The accessibility of these facts in the literature of investigation (see Neuberg, Der Harn, vol. 1, and the references there given, and Baar, below cited) make it absurd to examine, as is customary, any convenient specimen of urine

(1) Long, J. H. and Gephart, Frank. Some Analyses of Urine Composits. Jour. Amer. Chem. Soc. *34*; 1235, 1912.

regardless of diet or the 24-hour excretion and then make use of the finding in the formation of a clinical judgment. Baar impatiently declares the judgment of intestinal intoxication inferred from an indican test to be a "superstition." The physician's only recourse in this day of research and of journals is the literature of investigation.

The following contribution on this subject seems to be worthy of critical attention: Baar, Gustav. (Karlsbad). (1) Indicanuria. A clinical study of its pathological and differential diagnostic significance. Berlin, 1912.

Some years ago the author treated cases which frequently showed indican in the urine with lactobacillin, milk-cereal diet, etc., according to the suggestion of E. Metschnikoff. He was compelled, after some months, to admit that this treatment was without any effect whatever upon the excretion of indican. He then sought other agents to influence the indicanuria. The influence of these he could determine only by repeated urinary examinations, since, with few exceptions, other clinical symptoms, *e. g.*, those of "auto-intoxication," were absent. The author therefore undertook this extended study in the hope of finding practical results. Among these he reckons the fact which was thus developed; that intestinal "auto-intoxication" which records itself by a constant indicanuria is one of the rarest of diseases. Furthermore, that the recurring indicanuria is a valuable differential diagnostic symptom of an obscure gastro-intestinal affection. The above prefatory statement indicates that the author's experiments have carried him far beyond the customary clinical opinion of the significance of indicanuria and to results entirely contrary to those expected. Perhaps it is best to present here the author's own formulation of his results (page *72*):

(1) Indicanuria is evidence of bacterial protein decomposition somewhere in the body. Sometimes this process is located outside of the digestive tract and is then extra intestinal indicanuria. Most often the process lies within this tract, and is then intestinal.

(2) It has not yet been proved that there is a metabolic indicanuria dependent upon an abnormally high disintegration of tissue protein *without* the action of bacteria.

(3) Intestinal, better gastro-intestinal indicanuria may occur as

(3-1) *Constant* indicanuria, caused either by

(31-1) Anomalies of secretion in the gastro-intestinal tract; Achlorhydria (pernicious anemia, tuberculous, nervous); hypoplasia of the gastro-intestinal glands in the status thymolymphaticus (*i. e.*, intestinal auto-intoxication), or by

(31-2) Chronic pathologico-anatomical processes of the gastro-intes-

(1) Baar, Gustav (Karlsbad). Die Indicanuri. Eine klinische Studie ihre Pathologie und differential diagnostischen Bedeutung. Berlin. Urban & Schwarzenberg. 1912. P. *VII* 280.

tinal tract: Carcinoma ventriculi, hepatis, coli, recti, dysentery; colitis ulcerosa; tuberculosis peritonei, hepatic insufficience.

(3-2) *Recurrent* indicanuria, caused by recididive processes of the gastro-intestinal tract. Ulcus ventriculi, duodeni, chole-cystitis, appendicitis, peritoneal adhesions.

(3-3) *Transitory* indicanuria, caused by

(33-1) Acute gastro-intestinal processes; Ileus, gastritis, gastro-enteritis, acute circulatory disturbances, acute exanthemata, or

(33-2) Transitory anomalies of secretion of the gastro-intestinal tract: Depression, epilepsy, etc.

A practical point of much importance to physicians who make indican tests results from the experiments of Gilbert and Weil, briefly referred to on page 4. These authors studied the two-hourly excretion of indican and found that its maximum stood in correlation with the time of digestion, *i. e.*, follows a meal by some hours. Baar urges the principle that is scarcely ever observed by the practical physician that (page 4), "only a 24-hour quantity of urine should be used for the indican test." Again (page 41), he urges that a single positive indican test no more diagnoses indicanuria than a single positive sugar test suffices to diagnose diabetes. Finally (page 72), he advises that for a period of several months the indican test be continued at intervals of 2 to 3 days, and states emphatically that "a *single* indican test has absolutely no value."

The clinical material which Baar studied embraced 2,880 cases, of which 1,611 more or less often gave the indican, and 1,269 cases never showed indican in the urine. Only those cases which gave a positive indican test *repeatedly* were regarded as pathological and classed as either recurrent or constant indicanuria as appears in the summary previously given. There was no apparent relation between sex and indicanuria. In view of the supposed frequency of intestinal auto-intoxication, it is noteworthy that there were cases of constant indicanuria in which an examination of the whole body, stomach content, feces, blood, showed nothing abnormal (except simple anemia), beyond the intensive indican reaction of the urine. But among 2,092 cases there were only 32 such, *i. e.*, only 1½ per cent. of all cases examined. For other important physiological and pathological relations the original must be read.

The subdivisions of the book treat successively of indicanuria with reference to its history, detection, etiology, clinical significance, and the history of 100 cases in considerable detail. There is also a bibliography of eight pages. The author used the Obermayer test, *i. e.*, hydrochloric acid, containing some ferric chloride), applied to 10 c.c. of urine which had been treated with basic lead acetate. The intensity of the blue color of the chloroform used to separate the indican was described by an arbitrary scale, and only qualitative tests were made.

Report on the Failures in the Public Schools of Norfolk, Va., in the February Examinations

Virginia is actively interested in the problem of backward children. The following report shows the result in Norfolk of a study of those who failed of promotion. The backwardness was determined by the Binet tests. The results are of great interest, being in line with what is being found elsewhere.

FIRST GRADE.

Normal	Physically defective	Corrected	Absent 10 or more days	Failed No. times 1	2	3	4
53	39	15	26	37	7		
1 year below 54	39	16	19	30	12		
2 years below 60	34	12	25	27	17	1	
3 years below 38	26	3	11	10	8	4	3
205	138	46	81	104	44	5	3

SECOND GRADE.

Normal	Physically defective	Corrected	Absent 10 or more days	Failed No. times 1	2	3	4
44	30	15	12	35	5		
1 year below 27	19	6	7	13	8		
2 years below 17	13	6	9	6	9	1	1
3 years below 26	17	7	14	9	8	6	3
114	79	34	42	63	30	7	4

THIRD GRADE.

Normal	Physically defective	Corrected	Absent 10 or more days	Failed No. times 1	2	3	4
31	17	8	17	15	4	1	
1 year below 41	22	9	14	17	11	2	1
2 years below 22	14	4	10	10	7	2	1
3 years below 33	14	4	10	6	12	5	2
127	67	25	51	48	34	10	4

FOURTH GRADE.

Normal	Physically defective	Corrected	Absent 10 or more days	Failed No. times 1	2	3	4
15	12	4	6	14	1		
1 year below							
17	14	3	3	10	6	1	
2 years below							
34	19	5	7	11	9	2	
3 years below							
22	16	5	5	3	11	7	1
88	61	17	21	38	27	10	1

FIFTH GRADE.

Normal	Physically defective	Corrected	Absent 10 or more days	Failed No. times 1	2	3	4
16	10	3	1	8	2		
1 year below							
34	22	8	5	16	12	2	
2 years below							
18	10	3	4	3	9	5	
3 years below							
30	18	6	6	6	11	6	
98	60	20	16	33	34	13	

SIXTH GRADE.

Normal	Physically defective	Corrected	Absent 10 or more days	Failed No. times 1	2	3	4
3	1	0	1	2	1		
1 year below							
11	5	2	1	3	6	2	
2 years below							
13	7	3	2	3	5	3	
3 years below							
26	11	5	2	5	4	1	
53	24	10	6	13	16	6	

TOTAL.

Normal	Physically defective	Corrected	Absent 10 or more days	Failed No. times 1	2	3	4
162	109	45	63	111	20	1	
1 year below							
184	121	44	49	89	55	7	1
2 years below							
164	97	33	53	60	56	14	2
3 years below							
175	102	30	48	39	54	29	9
685	429	152	213	299	185	51	12

REPORT ON COLORED CHILDREN.

FIRST GRADE.

Normal	Physically defective	Corrected	Absent 10 or more days	Failed No. times 1	2	3	4
2	1	0	0	2			
1 year below							
2	2	0	0	2			
2 years below							
8	5	1	4	7	1		
3 years below							
10	4	1	4	4	3	3	
22	12	2	8	15	4	3	

SECOND GRADE.

Normal	Physically defective	Corrected	Absent 10 or more days	Failed No. times 1	2	3	4
3	1	1	1	2	1		
1 year below							
17	8	2	11	10	4	2	
2 years below							
8	2	0	7	2	4	2	
3 years below							
18	3	0	16	12	4	2	
46	14	3	35	26	13	6	

TOTAL.

Normal	Physically defective	Corrected	Absent 10 or more days	Failed No. times 1	2	3	4
68	26	5	43	41	17	9	

New Jersey is the first State where the Legislature has provided for State-wide special training for all subnormal children, retarded as well as defective.

Littles Sayings and Doings of the Children

One day Willie M. was rather slow about doing his work. The teacher said: "Willie, are you thinking?" Willie looked up and answered: "I have thought once, but Professor Johnstone said one Sunday, 'You should think twice before you do a thing.' I'm thinking twice."

In passing to her place, Frances accidently knocked against Sarah C. Sarah said: "Oh, do be careful, or you'll knock all the ginger out of me."

A nature class was having a lesson about the cat. Little Joe I., who is a deaf mute, ran quickly from his seat and picked up one of the toy cats from the table and carried it over to the window where there was a little mouse trap. Then he took both to the teacher, telling her, as best he could in his way, that cats like to eat mice.

Lavina X. is twelve years old mentally and is in the Physical Culture Class with some of the highest grade girls. Lavina has a remarkable memory and along some lines stands out above the other girls in the class. However, she has a few peculiarities, one of which is shown in our ball bouncing games. She stands on the circle or in line with the class and as the other girls throw and bounce the balls, Lavina bends down, gently lays her ball on the floor, then picks it up and stands erect, perfectly satisfied that she has done just what the other girls are doing.

Katherine H., on entering the sewing class, where there was no chair left for her, went into the hall to get one. After she had been gone for some time, the teacher went to look for her, and found her standing looking at a broken one. Miss R. said: "Katherine, why don't you bring your chair in?" Katherine replied: "There ain't any." Miss R.: "Why don't you take that one near you?" Katherine: "I don't like it; it's torn."

Because of their good work during the whole year, and especially their helpfulness with the Christmas play, Louisa B. and Florence D. were taken for a little trip to Philadelphia. They spent the morning visiting the big stores; they were delighted with the fancy work and the pretty ribbons, laces, dresses, etc.

They lunched in the Wanamaker Crystal Room, enjoying the pretty doilies, dishes, etc., especially the orchestra.

In the afternoon they went to see "Little Boy Blue," which pleased them exceedingly. They asked Mrs. N. several times if she thought this and that was as pretty as "Princess Chrysanthemum," their play, had been. After the play they got some candy and little things for their school friends, and at 8 o'clock returned home tired, contented, and as happy as little queens. It is a great thing to really earn such a privilege and, oh, how good to be able to talk about "what you saw and did on that wonderful day."

The average monthly salary of American school teachers in 1870 was $28.54. It is now $61.70.

The common roller towel is specifically prohibited in the schools of Indiana and Kansas. The regulations in Kansas provide that "each pupil must have an individual towel, or sanitary paper towels shall be furnished."

An international congress for physical education will be held in Paris, March 17-20, 1913, under the auspices of the Faculty of Medicine. It is expected that the United States will be represented.

Current Events

JANUARY, 1913.

January 1. Repeated Christmas play, "Princess Chrysanthemum," for the children. Some seventy children from the State Home for Women were invited. All had a most enjoyable evening.

January 2. Teachers left for a few days' vacation.

January 11. Gordon M. gave a party in Maple Cottage. He invited his boy friends, also a few employees, who reported a fine time. Superintendent Johnstone attending Pittsburgh Council of Education.

January 13. Resumed evening classes.

January 14. Sidney C. began his lessons on the writerpress.

January 15. The seventy-eight children who took part in the Christmas play gave their yearly Christmas party this evening. About forty employees and a few special friends attended. The children royally entertained all present by a repetition of many parts of the play, interspersed with games, etc. Refreshments, consisting of ice cream, cake, candy and fruit were served. This is always a much enjoyed event.

January 16. The boys in Baker Cottage had a little party. Each boy was allowed to write to one friend.

January 18. Floranc M. had a party in Robison A play room, about sixty boys participating. His mother had sent him a large birthday cake with nineteen candles, which were lighted while refreshments were being served. The Wilbur and Moore Cottage girls had a delightful party in Wilbur Cottage. The girls played games, had music, etc. While this was going on in the sitting rooms, the employees made candy and prepared refreshments in the kitchen. The time passed all too quickly.

January 20. Professor and Mrs. Johnstone entertained the members of our "Big Family." Every one considered the records on the new Victrola an exceptional treat, and all spent a most delightful evening. The farmers held a meeting in Garrison Hall.

January 22. A special meeting of the Training School Association was held.

January 23. The new school building was accepted to-day.

January 25. Richard H. gave a party in Elm Cottage, inviting the boys of that cottage and a few special friends. The Maxham girls had a candy pull.

January 26. At assembly Professor Johnstone told the boys and girls all about the new farming project. In the evening, the laboratory staff entertained the boys with stories and music.

Miss Badger, formerly of our teaching staff, has been called to Birmingham, Ala., where she will organize and take charge of the special classes.

A. F. NASH.

Information concerning
THE TRAINING SCHOOL AT VINELAND

The Training School is devoting its energies to the study, care and training of those whose minds have not developed normally. We are glad if we can assist in providing care for such children or in the opening of special classes in the public schools, or the establishing of other institutions.

You are invited to visit the School and see the various lines of activity. Wednesday is the regular visiting day.

If you wish to take part in what is being done, we shall be pleased to have your financial assistance and to have you join the Association of The Training School. Application may be made through any member of the Boards or to the Superintendent. The dues are $5.00 a year and this money is used to support some child in the Free Fund.

Each child in the School is considered as an individual. For the care, maintenance and training of our four hundred children we have one hundred employes. The children have their homes in fourteen cottages which are equipped with steam heat, electricity and modern plumbing, with bath and toilet rooms for each group. Children congenial to each other live together in the same cottage.

There is an entertainment or a party at least once a week. On Sundays we hold non-sectarian religious services. The great number of privileges we have to offer serve as a means of discipline, and corporal punishment is neither needed nor permitted.

So many of our girls and boys have failed in the world because someone has tried to make them fit surroundings unsuited to them. We try to fit the environment to the child and so bring out the best that is in him.

Each child is thoroughly and scientifically studied in the department of research, which collects and analyzes all facts relating to his physical and mental condition. His home and school life, his health and activities are all considered. Every department is called upon to report his doings so that we may know whether he is restless at night as well as what good work he has done in the day time.

In the Educational Department, all are reclassified without reference to their home life grouping. Here those of the same mental capacity are taught in the same classes and are again classified as they go from room to room. There are classes in kindergarten, nature study, sense training and elementary English. Physical training including games and gymnastics forms part of the regular school work. Children showing special aptitude are trained in instrumental music. Training in basketry, wood-working, sewing and domestic science is given as preliminatory vocational work.

Small groups are scheduled as helpers in the various trade shops where they are taught as much as they can learn of carpentry, painting, tailoring and dressmaking. With the plumber, engineer and electrician, the work is more difficult but those who can learn here have the opportunity. In all household branches and also in the dairy, garden, fruit, poultry and stock divisions there are groups in training.

With over two hundred acres of farm land we are able to raise an abundance of fruit and vegetables. Our dairy furnished one hundred and forty-six thousand quarts of milk last year and our poultry over eight thousand dozen of eggs, all of which were used as a part of our food supply. With our own cannery and cold storage plants, we are able to preserve our food supplies in a sanitary and wholesome manner.

Besides our cottages, we have separate buildings for hospital, school, assembly hall, store, industries, laundry and power plant as well as stable, barns and poultry houses.

The Training School is controlled and directed by an Association of philanthropic people from various parts of the United States. This is NOT a STATE institution.

Pupils are admitted as free, private or State.

FREE pupils are admitted subject to the approval of the Executive Committee. Their support is provided by gifts and membership dues. There is always a large waiting list. Applications should be made to the Superintendent and gifts for this fund should be made payable to George Davidson, Treasurer, Vineland, N. J.

PRIVATE pupils are admitted by the Superintendent, subject to the approval of the Executive Committee. The rate of tuition varies from forty to sixty dollars per month, all cases beginning at fifty dollars per month. Life provision for a child may be made by the payment of five thousand dollars. Private pupils of any age or sex may be received from any State or country.

STATE pupils are admitted through the Commissioner of Charities, Hon. Joseph P. Byers, State House, Trenton, N. J., to whom all communications relating thereto should be addressed. Parents of State pupils are expected to pay the State whatever they are able toward the support of their child.

Insane, idiotic and epileptic persons are not admitted.

All pupils receive the treatment, care and training best suited to their needs without reference to the method of support.

Address all communications to

E. R. JOHNSTONE, Supt.,
Vineland, N. J.

Do You want to know more about Backward and Mentally Deficient Children?

The Following Pamphlets embodying results from our Laboratory are for sale

The Responsibility of Children in the Juvenile Court, Sept. 1912. 13 pp. 10 Cents

Delinquent Girls Tested by the Binet Scale. May 1912. 4 pp. 5 Cents

The Height and Weight of Feeble Minded Children in American Institutions. April 1912. 18 pp. 10 Cents

Heredity as a Factor in the Problem of the Feeble Minded Child. Paris Aug. 1910. 9 pp. 10 charts. 5 Cents

Heredity of Feeble Mindedness No. 2. Reprinted from the Proceedings of the American Philosophical Society. July 1912. 5 pp. 1 chart. (not the American Breeders Magazine article—which is out of print.) 5 Cents

Importance of Field Workers Studying Heredity in Charity Work. June 1912. 2 pp. 2 Cents

The Binet Simon Measuring Scale for Intelligence. (Revised Jan. 1912.) 15 Cents

Two Thousand Children Tested by the Binet Measuring Scale of Intelligence. Reprinted from Proc. of N. E. A. July 1911. 9 pp. 5 Cents

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Sterilization and Segregation. Rep. from the Bulletin Academy of Medicine. August 1912. 7 pp. 10 Cents

The Hygiene of the Backward Child. Reprinted from Proc. of the VI Congress of the American School of Hygiene Association. 2 pp. 2 Cents

How did Feeble Mindedness Originate in the First Instance? By C. B. Davenport. Quoted by the Training School from the Popular Science Monthly for Jan. 1912. 4 pp. 5 Cents

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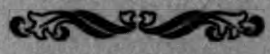

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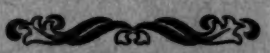

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